set appears reasonably valid for research, particularly following accreditation. The dataset may be a suitable alternative to collecting MR data manually within a trial, although caution should be exercised with earlier data. Further work is ongoing to establish the nature of the missing data and the implications for cost differences.

PRM27

CAN USING A RESOURCE USE LOG IN AN ECONOMIC EVALUATION ALONGSIDE A RANDOMISED CONTROLLED TRIAL REDUCE THE AMOUNT OF RECALL BIAS?

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OBJECTIVES: To determine whether giving patients a resource use log (RUL) at hospital discharge reduces recall bias in a follow-up resource use questionnaire (RUQ). **METHODS:** Within the APEX randomised controlled trials (RCTs), 86 patients undergoing joint replacement were randomised to receive or not receive an RUL at hospital discharge (The RUL trial). A postal RUQ was then administered to all participants at 3-months after surgery. Resource use data (visits to GPs, GP home visits and telephone calls; GP practice nurse visits and telephone calls; and prescribed medication) in relation to the patient's joint replacement were extracted from GP records from hospital discharge until completion of the 3-month RUQ by a blinded researcher. Data from both sources were coded into use of resource and number of contacts. For each resource use category, descriptive statistics were calculated by data source and RUL trial arm. Kappa statistics and Concordance Correlation Coefficients (CCC) were calculated as appropriate. **RESULTS:** GPs were contacted for 67/86 patients originally randomised to receive or not receive an RUL (one had surgery delayed, 3 died, 5 withdrew, 6 had GP practices outside of area, 4 did not complete the 3-month RUQ). Information was then extracted for 66/67 patients. There was evidence of improved recall in favour of the RUL arm in relation to visiting a GP (Kappa=0.5312 vs. -0.0161). There was some slight evidence in favour of the non-RUL arm with regards to having a GP home visit (Kappa=0.335 vs. -0.0937). The RUL arm showed more agreement than the non-RUL arm between data sources in terms of number of: visits to GPs (CCC=0.581 vs. -0.013); GP telephone calls (CCC=0.564 vs. 0.173) and prescriptions (CCC=0.418 vs. -0.13). **CONCLUSIONS:** Although based on small numbers, our study found some evidence that provision of an RUL reduces recall bias in relation to visits to GPs.

PRM28

SYSTEMATIC REVIEW AND CRITIQUE OF HEALTH ECONOMIC MODELS ON RELAPSING-REMITTING MULTIPLE SCLEROSIS IN THE UK

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OBJECTIVES: Several new disease modifying therapies have recently received marketing authorisations for the treatment of relapsing-remitting multiple sclerosis (RRMS). Given the recent appraisal by NICE of these therapies, the objective of this study was to systematically review and critically evaluate the techniques used in modelling relapsing-remitting multiple sclerosis in the UK. **METHODS:** Embase, Medline, Cochrane Library and the NICE website were searched systematically on 03.03.14 to identify articles relating to cost-utility models in RRMS with a UK perspective. Data sources, techniques and assumptions of the included models were extracted, compared and critically evaluated. **RESULTS:** Of 385 search results, 25 full texts were evaluated and 17 articles (relating to 12 different models) were included. Early models varied considerably in method and structure but convergence was apparent over time towards a Markov model with states based on disability score, a 1-year cycle length and a lifetime time horizon. More recent models also allowed for disability improvement within the natural history of the condition. Considerable variety remains, however, with an increasing number of comparators over time, the need for treatment sequencing and different assumptions around efficacy waning and treatment withdrawal. Additionally, modelling techniques were sometimes implemented inappropriately. Confidential data sources were frequently used, especially within the models submitted to NICE. **CONCLUSIONS:** Despite a convergence over recent years to a similar Markov structure, there are still significant discrepancies between the models simulating the course of RRMS in the UK. Differing methods, assumptions and data sources make the comparison of models, and their results, problematic. The Markov structure commonly used also leads to problems such as an incapability to deal with heterogeneous populations and multiplying complexity with treatment sequences; these would best be solved by using alternative model types such as discrete event simulations.

PRM29

SHOULD CHANGES IN DRUG PRICE OVER TIME BE CONSIDERED IN COST-EFFECTIVENESS ANALYSES?

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OBJECTIVES: Cost-effectiveness analyses (CEA) are used to support funding decisions for new drugs by estimating their clinical and economic value. While prices of drugs may fall over time due to market competition, entrance of generic drugs, or negotiated price cuts, this is rarely accounted for in CEA. The objective is to review pharmacoeconomic guidelines and current practice around drug price evaluation in CEA. **METHODS:** Pharmacoeconomic guidelines were reviewed to identify countries in which a drug price modification over the time horizon is allowed or recommended in CEA. Then methodological articles and published CEA using price modifications were identified. Finally, several health economics experts were interviewed. **RESULTS:** Only 3 pharmacoeconomic guidelines report recommendations around price adjustment in CEA (Norway, New-Zealand): modellers should take into account changes in drug price over time. In France, it is possible to include a generic price in sensitivity analysis. In other countries, this was not mentioned in the guidelines. Methodological articles mentioned the possibility to use an estimated 4% decrease over time in UK. In most of published CEA incorporating price modifications, this was performed as secondary analyses. Other CEA reported dynamic incremental cost-effectiveness ratio (ICER), at the time of market entry and by year thereafter. While experts were not aware of any existing guidelines, the predominant view was that although using the brand price for the studied drug would be a conservative approach, it is reasonable to account for price reductions after patent expiration for all drugs considered. **CONCLUSIONS:** Drug price variations may introduce a source of uncertainty in CEA, as both timing of entry and level of generic drug pricing are unknown. There is currently no consensus on how this should be considered. Failure to incorporate generic drug entry in CEA is likely to yield overestimates of ICER for treatments used over long-term.

PRM30

ESTIMATING COSTS IN A COST-EFFECTIVENESS ANALYSIS: ADHERENCE TO HTA GUIDANCE

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OBJECTIVES: Since the results of a cost-effectiveness analysis (CEA) are generally sensitive to the input cost parameter values selected for difference disease-related outcomes a systematic approach should be used to derive these estimates as suggested in HTA guidance. To determine the extent to which a systematic approach was used to select disease-related cost estimates for inclusion in CEAs for new hepatitis C treatments. **METHODS:** A systematic literature review of primary costing studies and of the cost data used in published CEAs was performed for different stages of liver disease for those with chronic hepatitis C infection. The process described in the cost-effectiveness analyses by which they selected the input base-case cost values as well as the ranges used in the sensitivity analyses was reviewed to determine whether or not a systematic approach was used to identify primary cost studies and whether or not the a rationale was supplied for the values selected. **RESULTS:** The hepatitis C systematic review focused on US costs and cost-effectiveness analyses. In most of the hepatitis C cost-effectiveness analyses, the cost estimates used were either taken directly or derived from recent primary cost studies. However, a systematic review was not generally used to identify the recent primary cost studies. In addition, the method used to adapt the data from the selected studies for use in the CEA was either not explained and/or appeared to be incorrect in some of the CEAs. In most of the CEAs, sensitivity analyses assumed arbitrary ranges for the cost estimates (for example, plus or minus 50%) rather than using ranges from alternative cost studies. **CONCLUSIONS:** Very little detail is provided in published CEAs about the methods used to identify primary disease-related cost studies and a rationale for selection of the costs is generally not provided.

PRM31

IDENTIFYING THE BROADER VALUE OF VACCINES IN LOW AND MIDDLE INCOME COUNTRIES

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OBJECTIVES: Current economic evaluations of vaccine immunization strategies mainly concentrate on immediate health gains (measured in metrics such as QALYs or DALYs) and household cost savings. Vaccine immunization strategies, however, often take place within a broader societal context. In order to financially sustain these strategies, economic evaluations should not only encompass immediate health gains and household costs but also the 'broader value of vaccines'. This study aims to identify the relevance of information with regard to the broader value of vaccines for decision makers in low and middle income countries. **METHODS:** Several methods were used to identify the broader value of vaccines including a literature review, a survey, interviews and consultations with experts. The long-term effects of those who were vaccinated and the effects experienced by society as a whole, including non-vaccinated community members, were included in a framework. **RESULTS:** In total, twenty broader values in five different domains were identified. The first domain included long-term productivity gains. These gains refer to the individual long-term productivity due to better physical and mental health as well as to the economic consequences of decisions made by households due to improved child survival. The second domain consists of ecological values which are related to the decline of prevalence and incidence of vaccine related diseases. The third domain encompasses different types of equity considerations. The fourth domain includes the impact of vaccine strategies on other health interventions. Finally, the fifth domain includes macroeconomic effects, such as the impact of vaccine immunization strategies on GDP tax revenues and overall government savings. **CONCLUSIONS:** Several broader economic values outside the health care sector were identified. These results provide the input for the incorporation of these values in economic evaluations. Further research is needed to identify the most important broader values for national decision makers.

PRM32

PROPOSAL FOR A COMPREHENSIVE DEFINITION OF BUDGET IMPACT ANALYSIS

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OBJECTIVES: To our knowledge in most articles BIA is only defined as what it does. Some authors have tried to define it by comparing it to cost effectiveness analysis. But still there is no common stand-alone definition of the term Budget Impact Analysis available. Our aim is to provide such a definition. **METHODS:** In the course of a PhD thesis we conducted a systematic literature review in order to identify methodological articles regarding budget impact analyses. We searched pudmed and seven other databases to identify relevant articles. From the eligible articles the different understandings and definitions of BIA were extracted and synthesized into a comprehensive definition. **RESULTS:** Our search delivered 223 articles from which 28 met our inclusion criteria. 15 different approaches to describe BIAs were identified. Over the years (2001 to today) there was a constant improvement and increase of complexity in the descriptions. Nevertheless most of the late definitions are based on the work of